

ER/WM&I DDT

Source/Driver: (Name & Number from
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Closure #: (Outgoing Correspondence
Control #, if applicable)

Due Date



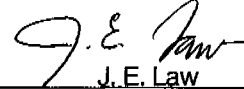
A. L. Primrose/M. Wood

Originator Name



G. DiGregorio

QA Approval



J. E. Law

Contractor Manager(s)

J. Uhland

Kaiser-Hill Program Manager(s)

A. D. Rodgers

Kaiser-Hill Director

Document Subject:

TRANSMITTAL OF THE RESPONSES TO ADDITIONAL AGENCY COMMENTS TO THE SAMPLING AND ANALYSIS PLAN FOR THE SITE CHARACTERIZATION OF THE 903 DRUM STORAGE AREA, 903 LIP AREA, AND AMERICIUM ZONE - JEL-011-98

KH-00003NS1A

January 21, 1998

Discussion and/or Comments:

Attached are ten (10) copies of the *Responses to Additional Agency Comments to the Sampling and Analysis Plan for the Site Characterization of the 903 Drum Storage Area, 903 Lip Area, and Americium Zone*. Included are three (3) copies for Kaiser-Hill, two (2) copies for the DOE, three (3) copies for the EPA, and two (2) copies for the CDPHE. If you have any questions please contact Mark Wood at extension 6689.

Attachments:

As Stated

cc:

A. C. Crawford
J. E. Law
S. M. Paris
A. L. Primrose
M. T. Vess
M. R. Wood
Administrative Record
RMRS Records

***Sampling and Analysis Plan
for the
Site Characterization of the 903 Drum Storage Area
903 Lip Area, and Americium Zone***

Responses to Additional Agency Comments

January 21, 1998

Response to Additional Comments from Colorado Department of Public Health and Environment, Hazardous Materials and Waste Management Division, on the Sampling and Analysis Plan for the 903 Drum Storage Area (IHSS 112), 903 Lip Area (IHSS 155), and Americium Zone, dated September 18, 1997 (Revision 0).

Comment 1.

Section 1.2.3 provides background and a basis for additional groundwater investigations, but does not seem to be based on all the available data. Existing groundwater data should be presented in time series and evaluated. An evaluation should include whether VOC concentrations at a well are increasing or decreasing with time and whether concentrations increase with depth. Any pertinent data from soil or bedrock samples should also be presented.

Response:

The text in Section 1.2.2, Subsurface Soils, was revised in the December 15, 1997 version to include that the maximum carbon tetrachloride concentration in soil was detected at a depth of 23.8 feet with bedrock encountered at a depth of 22 feet. Although not discussed in the text, the carbon tetrachloride (CCl₄) concentrations in soil and bedrock increased with depth. Tetrachloroethene (PCE) concentrations in soil and bedrock increased with depth in boring 8891 with a maximum of 110 ug/kg at a depth of 27.4 feet with bedrock encountered at a depth of 23 feet. Changes in groundwater concentrations with depth will not be evaluated.

A discussion of the time series evaluation of the VOC concentrations in well 6691 and 8891 was omitted from the text in the SAP because there is no significant change in concentrations over time. The attached time series chart for well 8891 reflect continuous concentrations of PCE, CCl₄, and trichloroethene. The attached time series chart for well 6691 reflect an overall slight increase in the concentration of CCl₄ over time. The CCl₄ concentration from well 6691 are well above one percent of the solubility of CCl₄. The data from both wells indicate a nearby upgradient source for the VOC contamination. The subsurface VOC investigation is designed to locate these sources.

Comment 2.

The site conceptual model in Section 1.3 does not include factors such as the potential impact on DNAPL migration from coarse and fine alluvial materials and from sloping bedrock due to the paleoscur.

Response:

Three-dimensional graphical presentation would be required to present this model. However, the proposed investigative approach addresses these conditions by including the collection of soil samples at locations suspected to contain subsurface contamination. Soil cores will be visually inspected and screened using organic vapor detectors to identify organic contamination in the various soil types encountered. Using a step-out approach in an upgradient direction for placement of boreholes and including factors which might affect DNAPL migration will ensure sampling of soils and bedrock in the suspected source areas.

Comment 3.

At the end of Section 1.2.3 (page 7) it states that uranium isotopes have not been detected above background in groundwater. Background values for uranium in groundwater are currently being reevaluated. Until there is consensus on this number, action level values alone should be used to screen uranium data.

Response:

Uranium isotopes are not constituents of concern, whether background values or action level values are used to screen the data.

Comment 4.

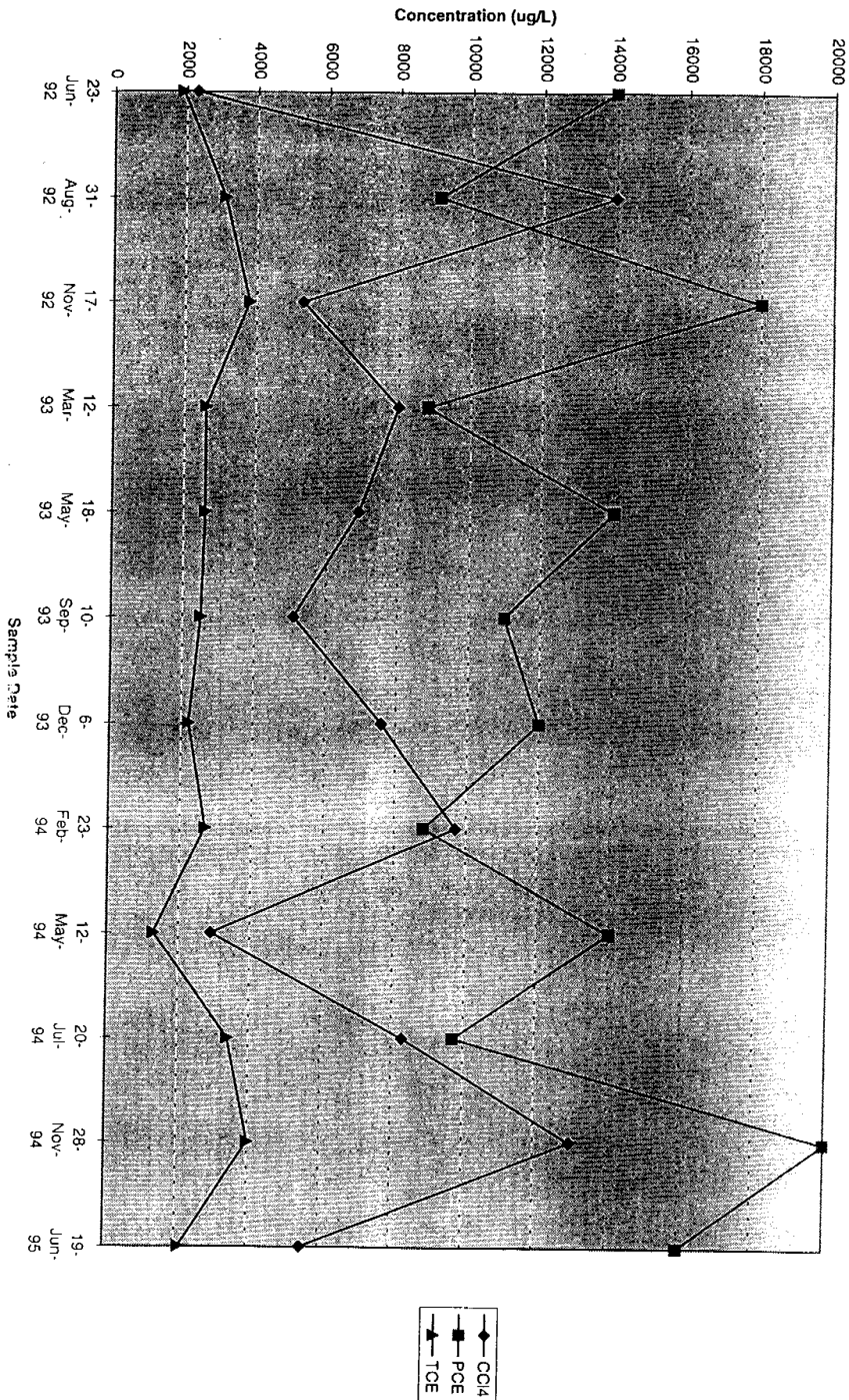
Four boreholes are spotted on Figure 3-4 around the soil gas anomaly at well 07191, however only three are mentioned in the text in Section 3.2. The text also states that no VOC contamination was detected at well 07191, but a ">100 ppm" soil gas contour line passes through the well location. If well 07191 is uncontaminated as stated in the text, what criteria were used to choose these proposed borehole locations? Rather than using an arbitrary "radial placement geometry", factors which might affect DNAPL migration should be considered when locating these proposed boreholes.

Response:

The text was revised in the December 15, 1997 version to locate only one soil boring over the soil gas anomaly east of well 07191. As noted the soil gas contour line passes through the well location on the revised Figure 3.4. However, isoconcentration contour lines are approximately drawn and we should not have to revise Figure 3.4. As stated in Response to Comment 2 and the revised text to the SAP our approach has changed to focus on the historical drum storage area and the known groundwater wells with PCE and CCl₄ concentrations greater than the compounds respective aqueous solubilities.

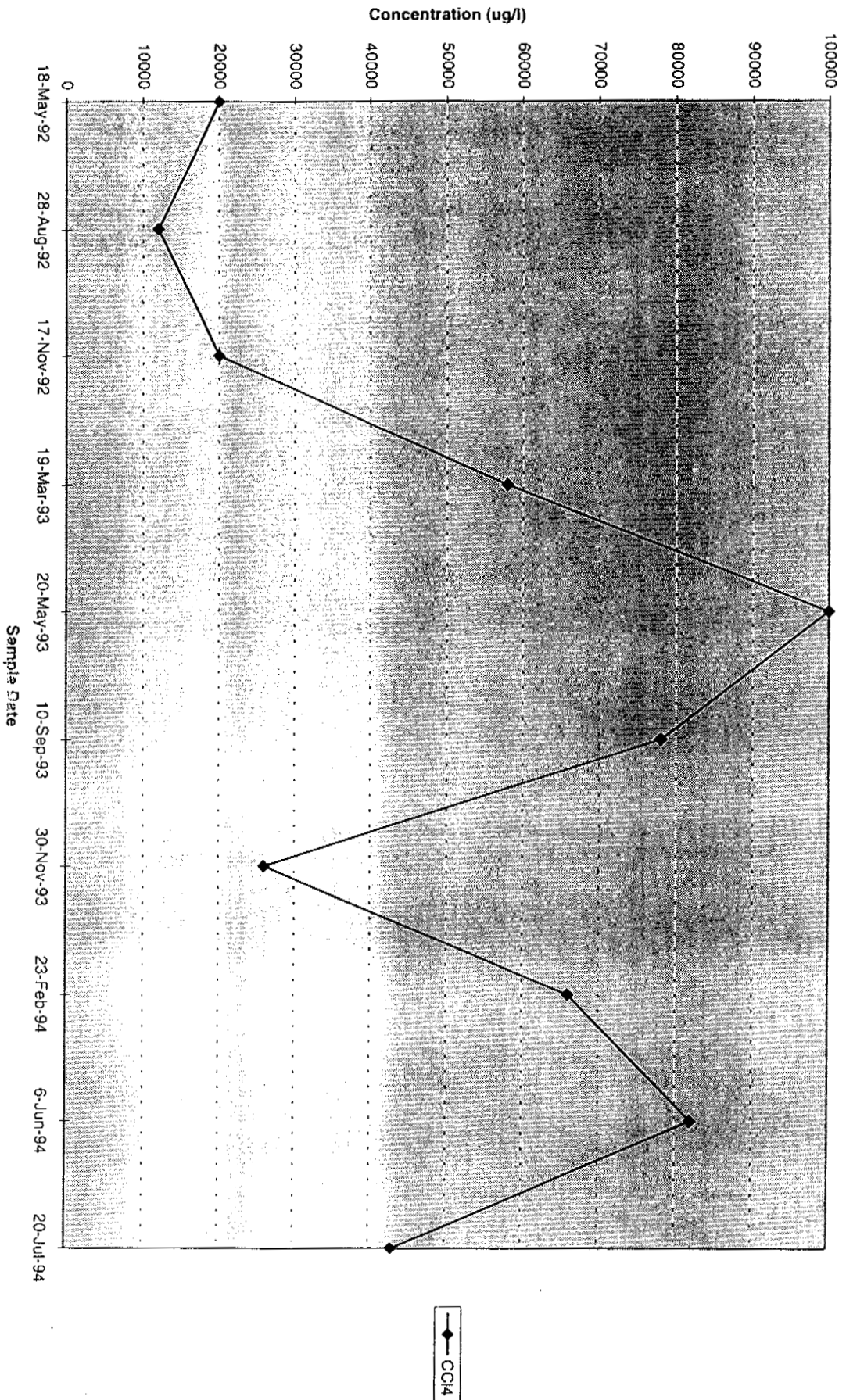
VOCs Chart 1

Well 8891 Time Series



Sheet1 Chart 1

Time Series, Well 6691



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